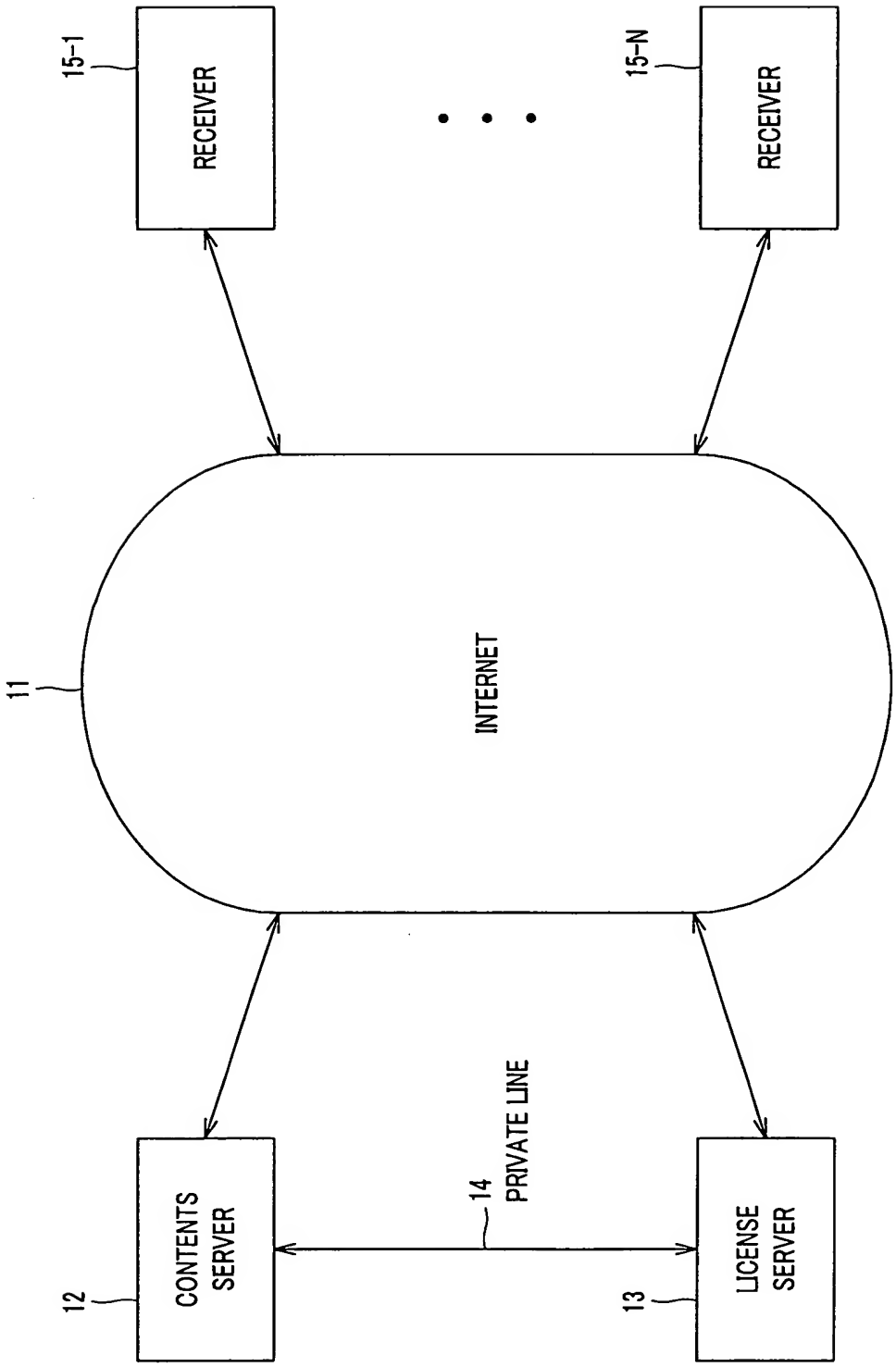

15-1
RECEIVER
15-N
RECEIVER
11
INTERNET
12
CONTENTS SERVER
14
PRIVATE LINE
13
LICENSE SERVER
1

FIG.1

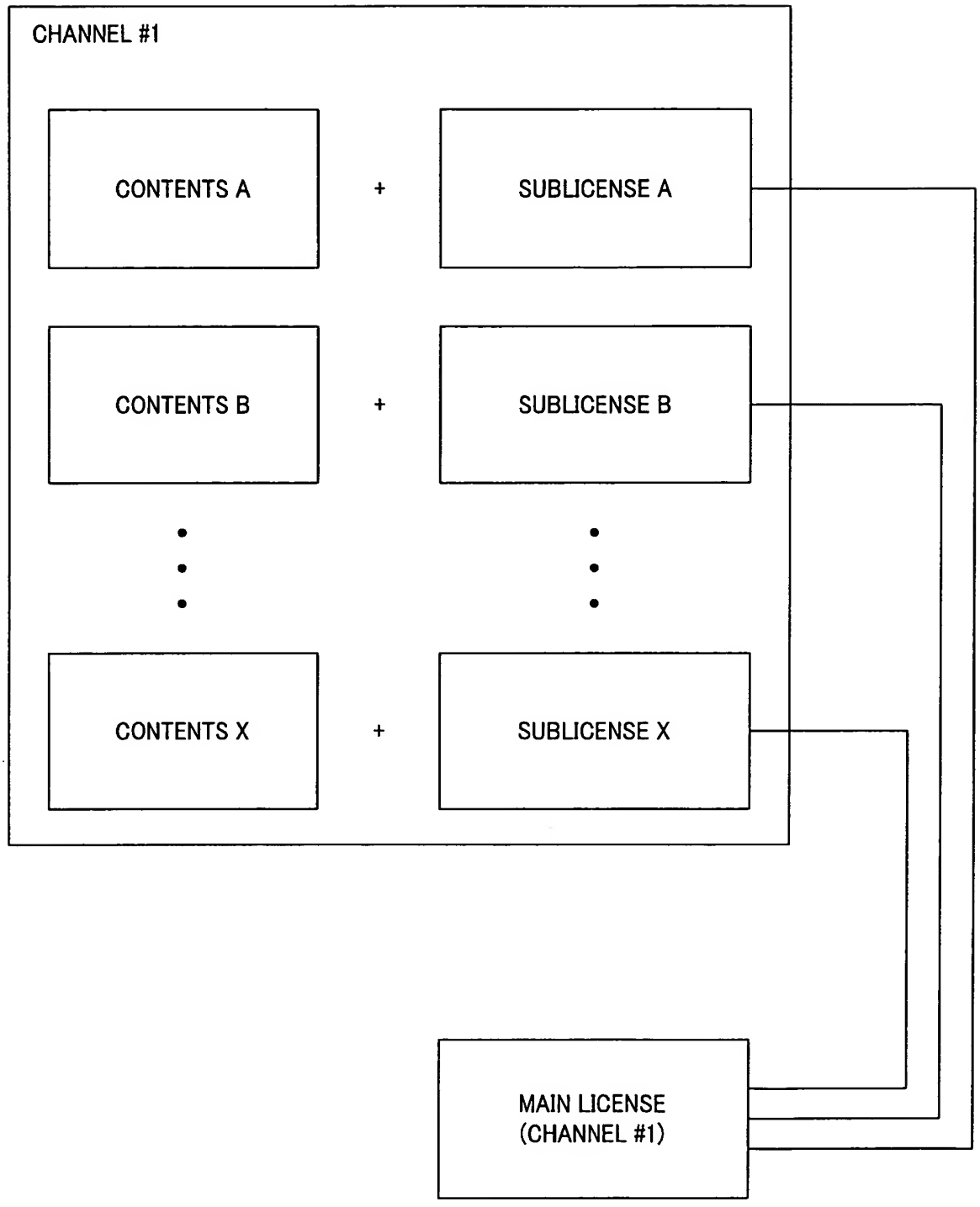

CHANNEL #1
CONTENTS A
+
SUBLICENSE A
CONTENTS B
+
SUBLICENSE B
CONTENTS X
+
SUBLICENSE X
MAIN LICENSE
(CHANNEL #1)

FIG.2

FIG.3A

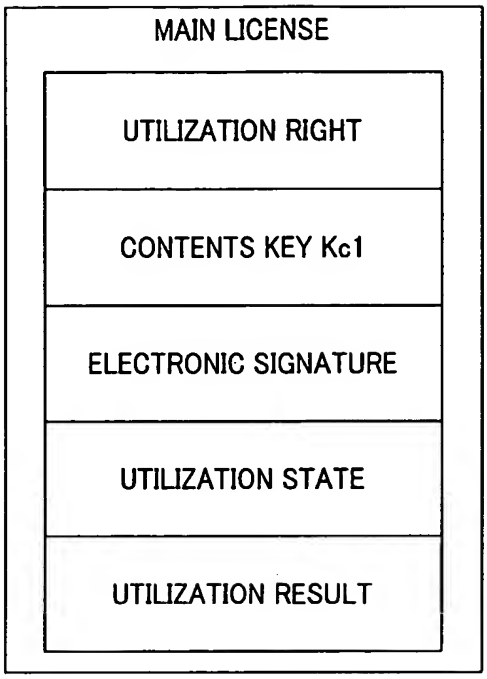
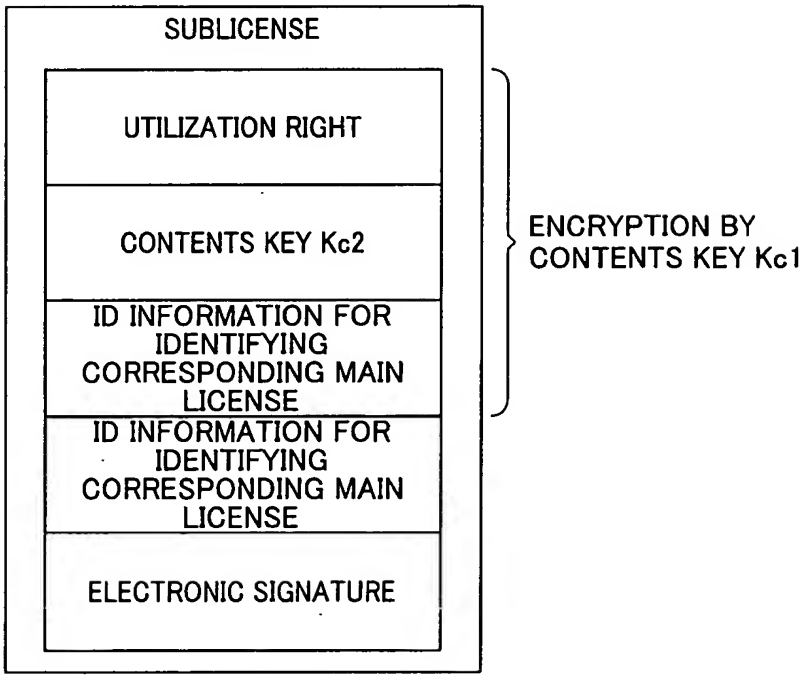

MAIN LICENSE
UTILIZATION RIGHT
CONTENTS KEY Kc1
ELECTRONIC SIGNATURE
UTILIZATION STATE
UTILIZATION RESULT

FIG.3B


SUBLICENSE
UTILIZATION RIGHT
CONTENTS KEY Kc2
ID INFORMATION FOR IDENTIFYING CORRESPONDING MAIN LICENSE
ID INFORMATION FOR IDENTIFYING CORRESPONDING MAIN LICENSE
ELECTRONIC SIGNATURE
ENCRYPTION BY CONTENTS KEY Kc1

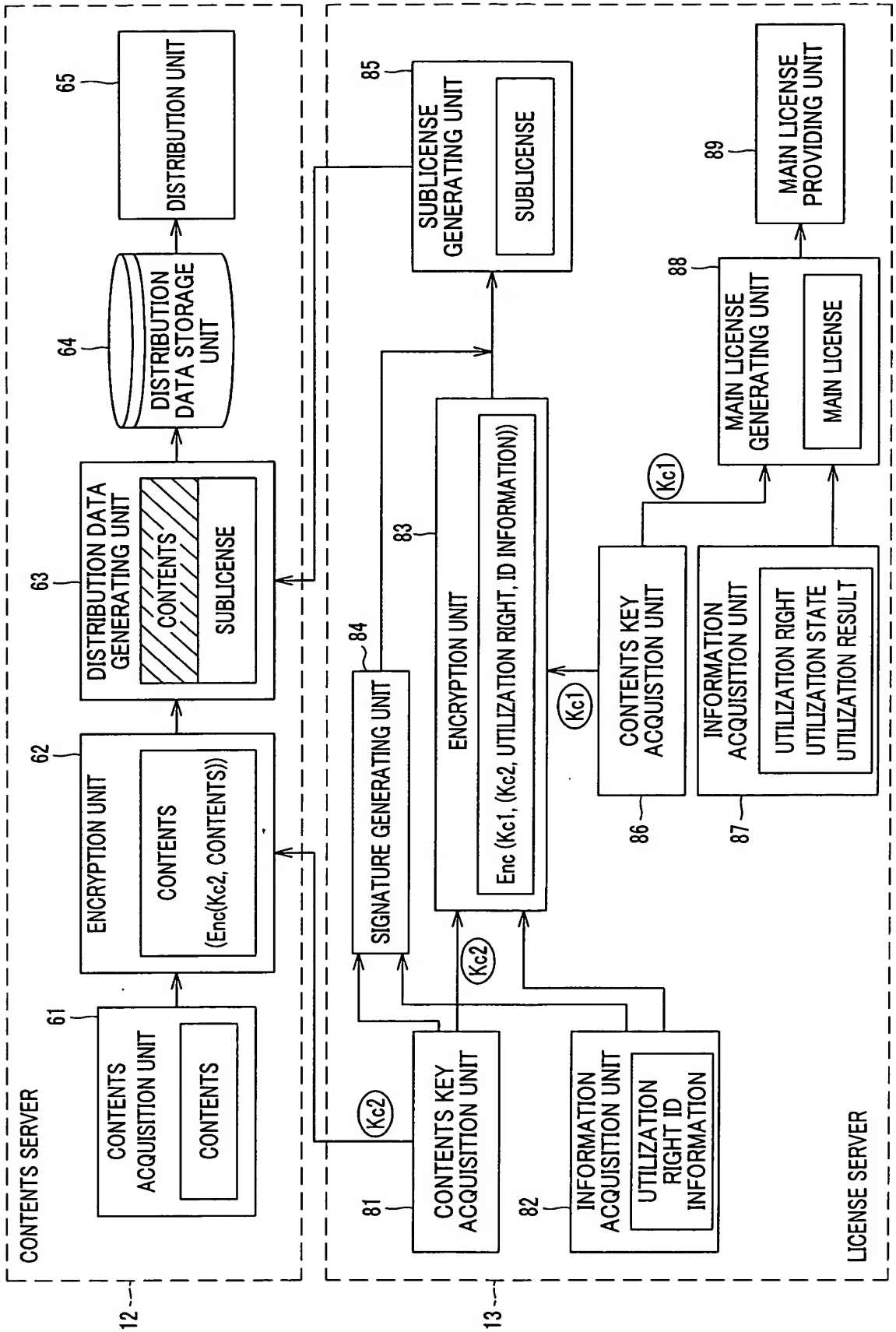

CONTENTS SERVER
12
61
CONTENTS ACQUISITION UNIT
CONTENTS
62
ENCRYPTION UNIT
CONTENTS
(Enc(Kc2, CONTENTS))
63
DISTRIBUTION DATA GENERATING UNIT
CONTENTS
SUBLICENSE
64
DISTRIBUTION DATA STORAGE UNIT
65
DISTRIBUTION UNIT
LICENSE SERVER
13
81
CONTENTS KEY ACQUISITION UNIT
Kc2
82
INFORMATION ACQUISITION UNIT
UTILIZATION RIGHT ID INFORMATION
84
SIGNATURE GENERATING UNIT
83
ENCRYPTION UNIT
Enc (Kc1, (Kc2, UTILIZATION RIGHT, ID INFORMATION))
Kc2
Kc1
85
SUBLICENSE GENERATING UNIT
SUBLICENSE
86
CONTENTS KEY ACQUISITION UNIT
87
INFORMATION ACQUISITION UNIT
UTILIZATION RIGHT
UTILIZATION STATE
UTILIZATION RESULT
Kc1
88
MAIN LICENSE GENERATING UNIT
MAIN LICENSE
89
MAIN LICENSE PROVIDING UNIT

FIG.4

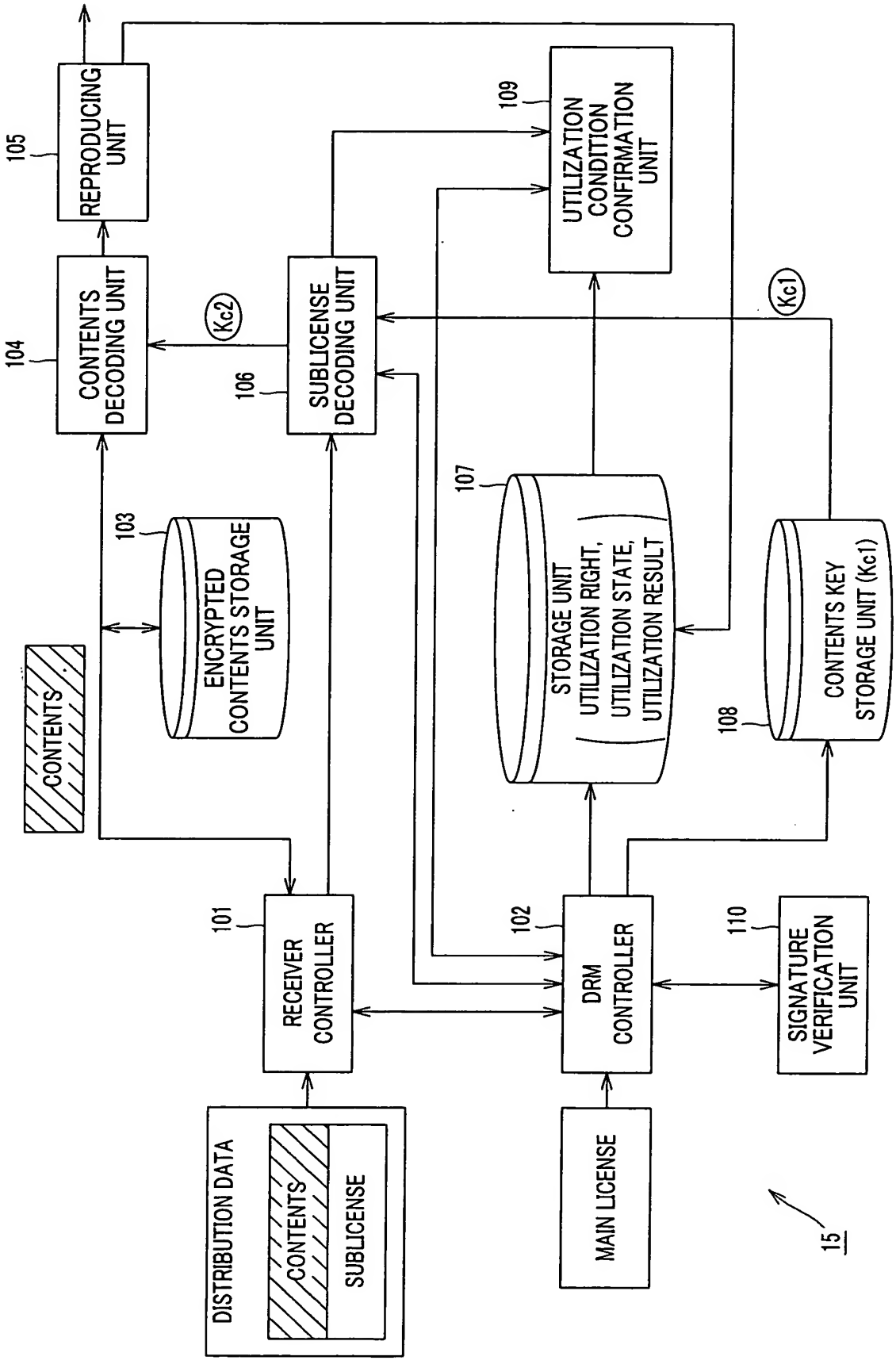

DISTRIBUTION DATA
CONTENTS
SUBLICENSE
MAIN LICENSE
15
101
RECEIVER CONTROLLER
102
DRM CONTROLLER
110
SIGNATURE VERIFICATION UNIT
103
ENCRYPTED CONTENTS STORAGE UNIT
107
STORAGE UNIT UTILIZATION RIGHT, UTILIZATION STATE, UTILIZATION RESULT
108
CONTENTS KEY STORAGE UNIT (Kc1)
CONTENTS
104
CONTENTS DECODING UNIT
Kc2
106
SUBLICENSE DECODING UNIT
Kc1
109
UTILIZATION CONDITION CONFIRMATION UNIT
105
REPRODUCING UNIT

FIG.5

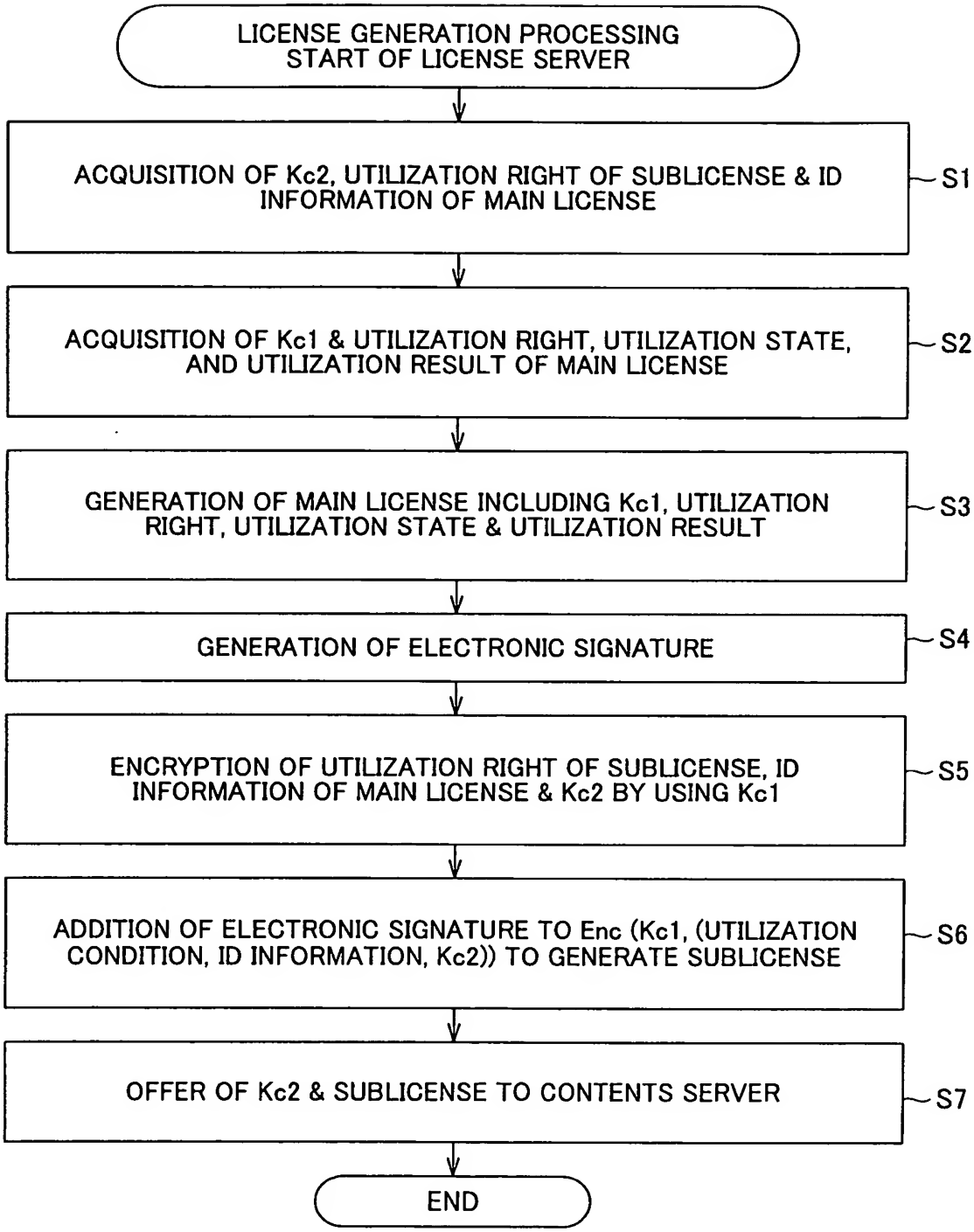

LICENSE GENERATION PROCESSING START OF LICENSE SERVER
ACQUISITION OF Kc2, UTILIZATION RIGHT OF SUBLICENSE & ID INFORMATION OF MAIN LICENSE
S1
ACQUISITION OF Kc1 & UTILIZATION RIGHT, UTILIZATION STATE, AND UTILIZATION RESULT OF MAIN LICENSE
S2
GENERATION OF MAIN LICENSE INCLUDING Kc1, UTILIZATION RIGHT, UTILIZATION STATE & UTILIZATION RESULT
S3
GENERATION OF ELECTRONIC SIGNATURE
S4
ENCRYPTION OF UTILIZATION RIGHT OF SUBLICENSE, ID INFORMATION OF MAIN LICENSE & Kc2 BY USING Kc1
S5
ADDITION OF ELECTRONIC SIGNATURE TO Enc (Kc1, (UTILIZATION CONDITION, ID INFORMATION, Kc2)) TO GENERATE SUBLICENSE
S6
OFFER OF Kc2 & SUBLICENSE TO CONTENTS SERVER
S7
END

FIG.6

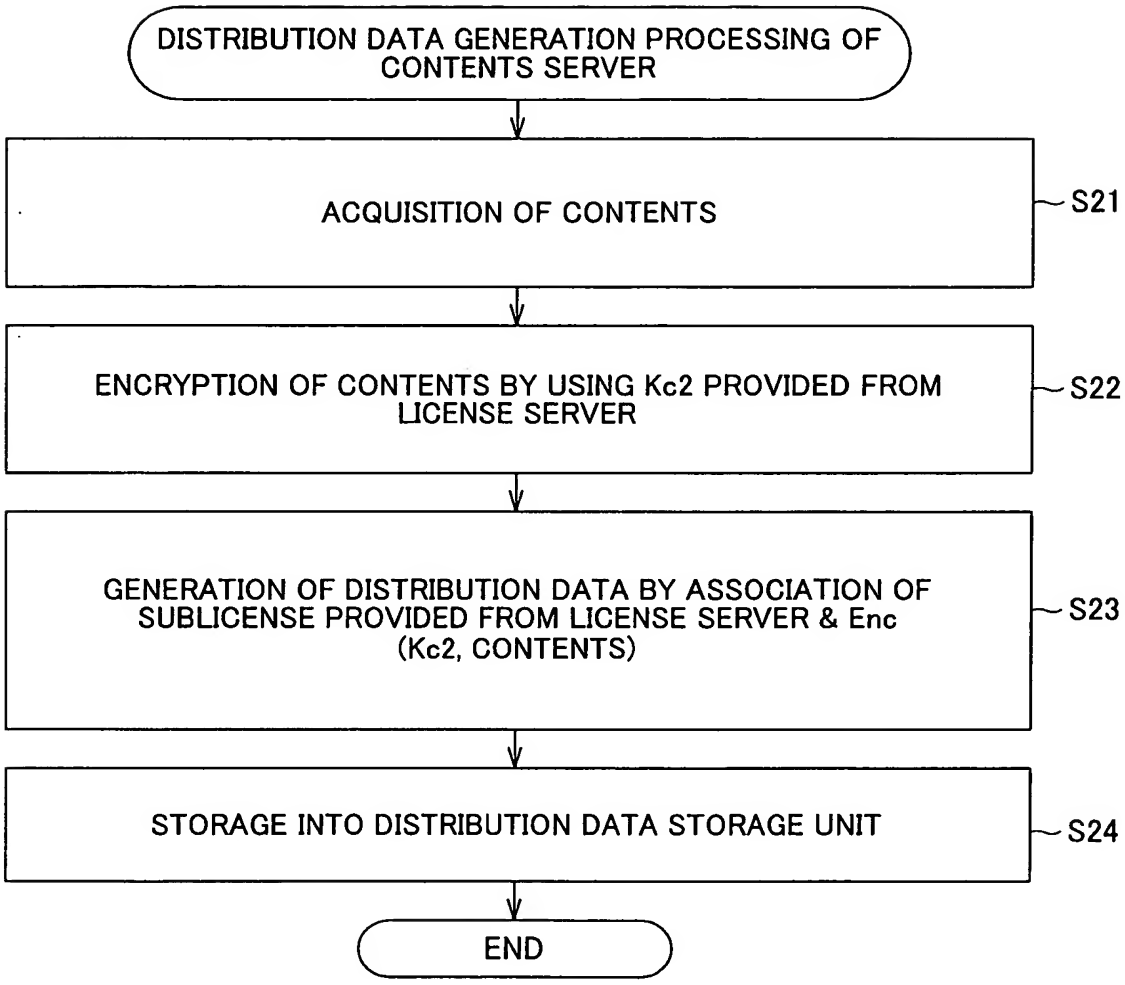

DISTRIBUTION DATA GENERATION PROCESSING OF CONTENTS SERVER
ACQUISITION OF CONTENTS
S21
ENCRYPTION OF CONTENTS BY USING Kc2 PROVIDED FROM LICENSE SERVER
S22
GENERATION OF DISTRIBUTION DATA BY ASSOCIATION OF SUBLICENSE PROVIDED FROM LICENSE SERVER & Enc (Kc2, CONTENTS)
S23
STORAGE INTO DISTRIBUTION DATA STORAGE UNIT
S24
END

FIG.7

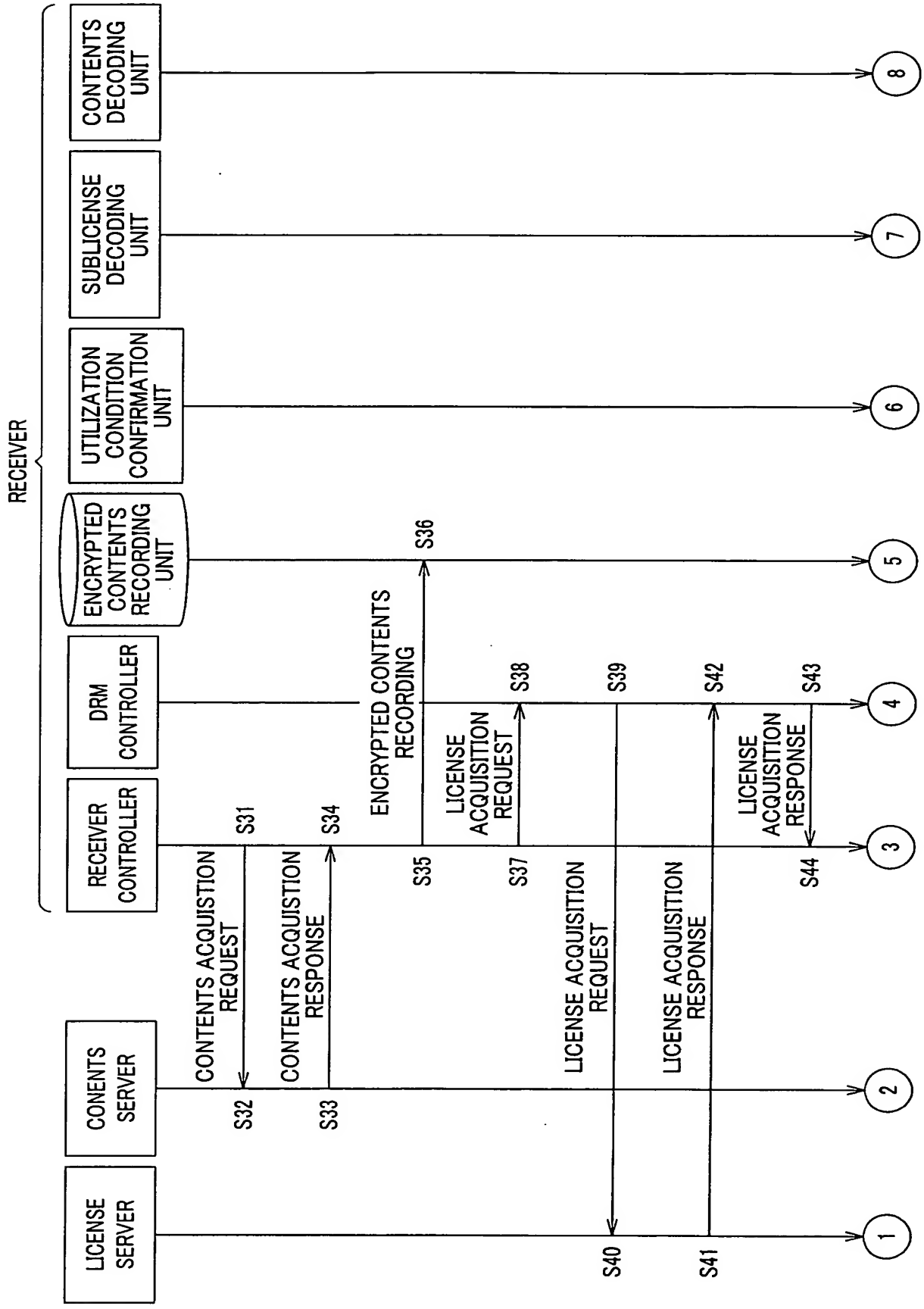

RECEIVER
LICENSE SERVER
CONENTS SERVER
RECEIVER CONTROLLER
DRM CONTROLLER
ENCRYPTED CONTENTS RECORDING UNIT
UTILIZATION CONDITION CONFIRMATION UNIT
SUBLICENSE DECODING UNIT
CONTENTS DECODING UNIT
CONTENTS ACQUISTION REQUEST
CONTENTS ACQUISTION RESPONSE
ENCRYPTED CONTENTS RECORDING
LICENSE ACQUISITION REQUEST
LICENSE ACQUISITION RESPONSE
LICENSE ACQUISITION REQUEST
LICENSE ACQUISITION RESPONSE
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40
S41
S42
S43
S44
1
2
3
4
5
6
7
8

FIG.8

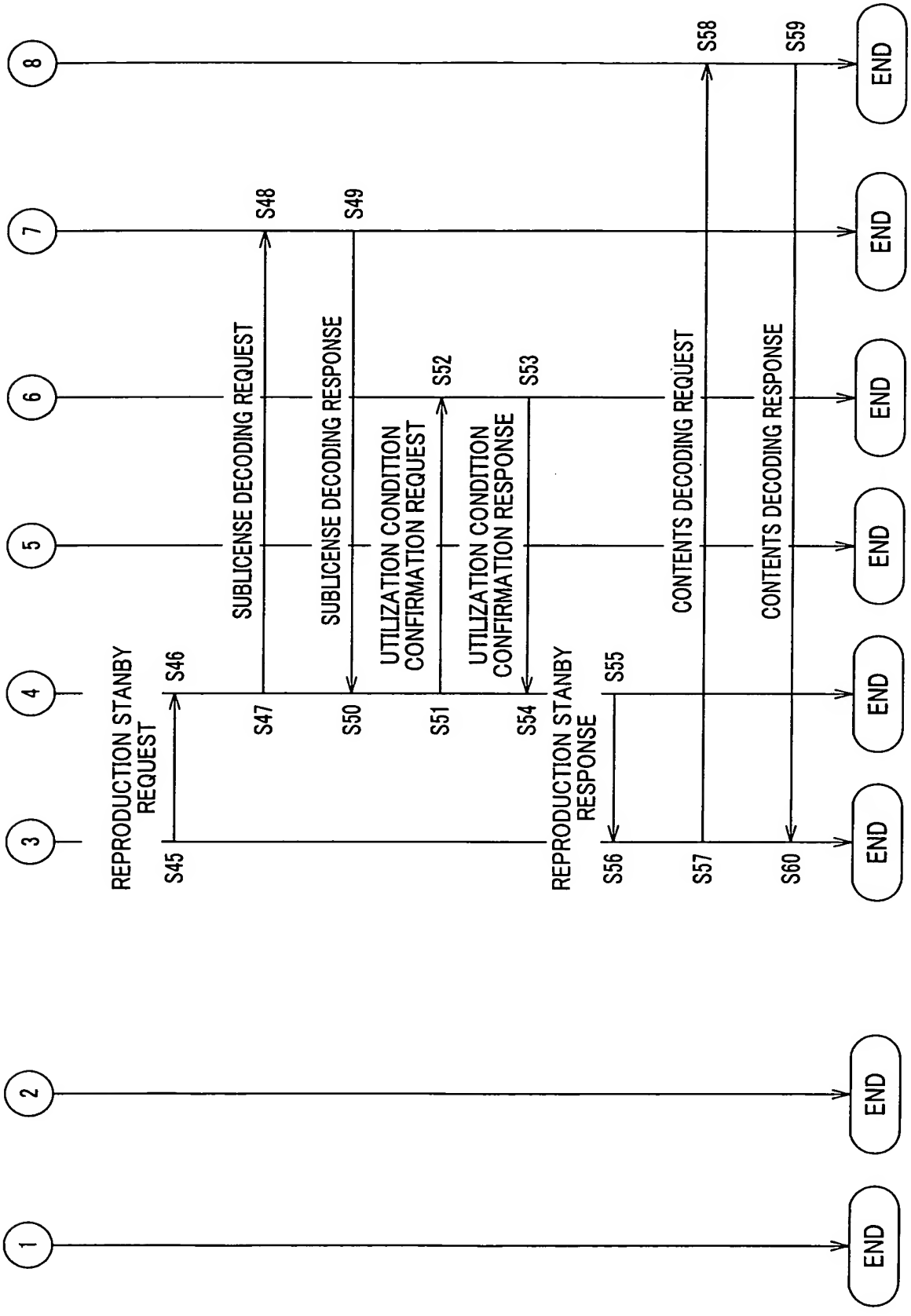

1
2
3
4
5
6
7
8
END
END
END
END
END
END
END
END
REPRODUCTION STANBY REQUEST
S45
S46
SUBLICENSE DECODING REQUEST
S47
S48
SUBLICENSE DECODING RESPONSE
S49
S50
UTILIZATION CONDITION CONFIRMATION REQUEST
S51
S52
UTILIZATION CONDITION CONFIRMATION RESPONSE
S53
S54
REPRODUCTION STANBY RESPONSE
S55
S56
CONTENTS DECODING REQUEST
S57
S58
CONTENTS DECODING RESPONSE
S59
S60

FIG.9

	MAIN LICENSE	SUBLICENSE	UTILIZATION CONDITION TO BE CONFIRMED
CONTENTS A	AVAILABLE PERIOD FROM 2003/10/01 TO 2003/10/31	TEN TIMES AVAILABLE	AVAILABLE PERIOD FROM 2003/10/01 TO 2003/10/31 TEN TIMES AVAILABLE
CONTENTS B	AVILABLE PERIOD UNTIL 2003/12/31	-	AVILABLE PERIOD UNTIL 2003/12/31

FIG.10

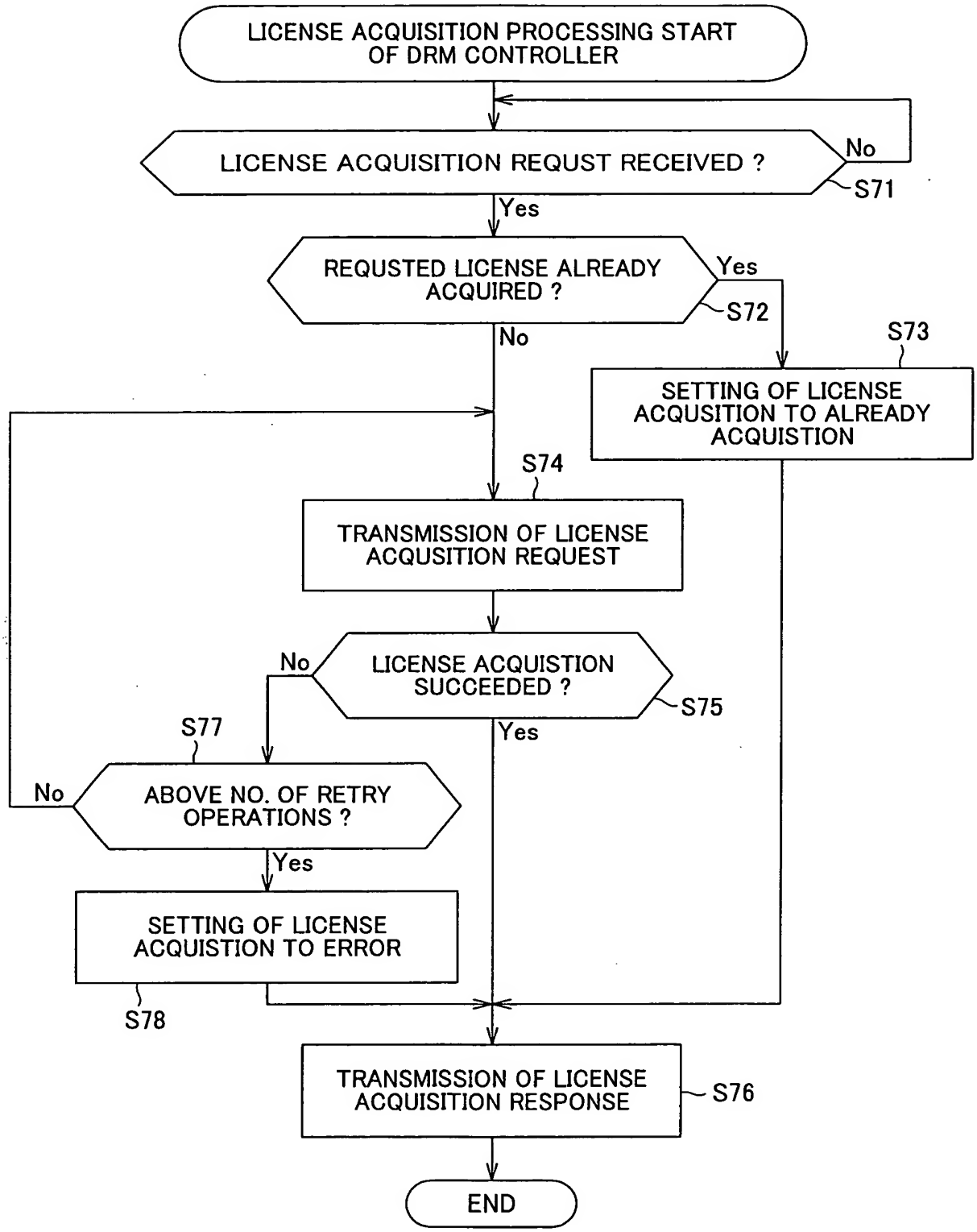

LICENSE ACQUISITION PROCESSING START OF DRM CONTROLLER
LICENSE ACQUISITION REQUST RECEIVED ?
No
S71
Yes
REQUSTED LICENSE ALREADY ACQUIRED ?
Yes
S72
No
S73
SETTING OF LICENSE ACQUSITION TO ALREADY ACQUISTION
S74
TRANSMISSION OF LICENSE ACQUSITION REQUEST
No
LICENSE ACQUISTION SUCCEEDED ?
S75
Yes
S77
No
ABOVE NO. OF RETRY OPERATIONS ?
Yes
SETTING OF LICENSE ACQUISTION TO ERROR
S78
TRANSMISSION OF LICENSE ACQUISITION RESPONSE
S76
END

FIG.11

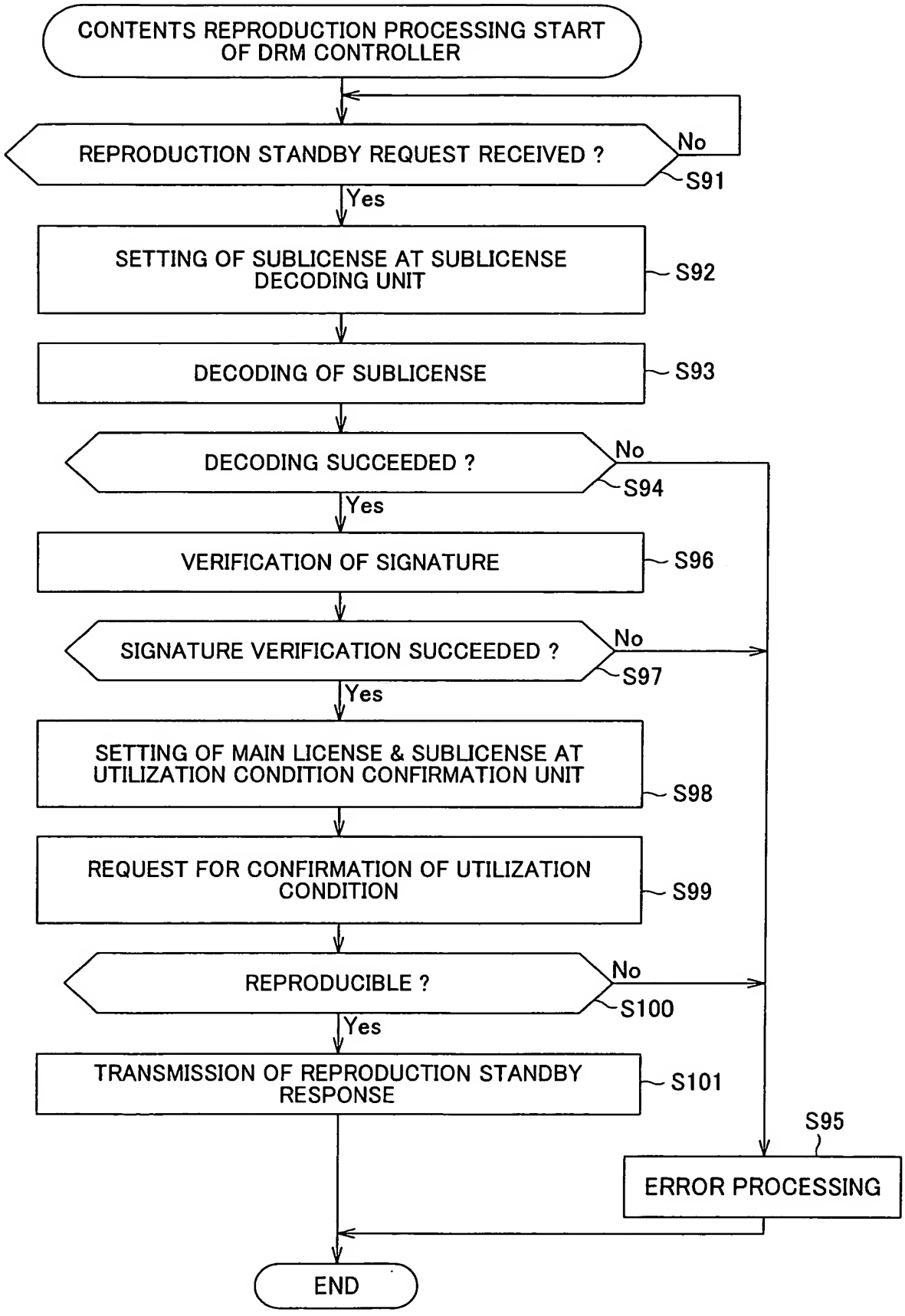

CONTENTS REPRODUCTION PROCESSING START OF DRM CONTROLLER
REPRODUCTION STANDBY REQUEST RECEIVED ?
No
S91
Yes
SETTING OF SUBLICENSE AT SUBLICENSE DECODING UNIT
S92
DECODING OF SUBLICENSE
S93
DECODING SUCCEEDED ?
No
S94
Yes
VERIFICATION OF SIGNATURE
S96
SIGNATURE VERIFICATION SUCCEEDED ?
No
S97
Yes
SETTING OF MAIN LICENSE & SUBLICENSE AT UTILIZATION CONDITION CONFIRMATION UNIT
S98
REQUEST FOR CONFIRMATION OF UTILIZATION CONDITION
S99
REPRODUCIBLE ?
No
S100
Yes
TRANSMISSION OF REPRODUCTION STANDBY RESPONSE
S101
S95
ERROR PROCESSING
END

FIG. 12

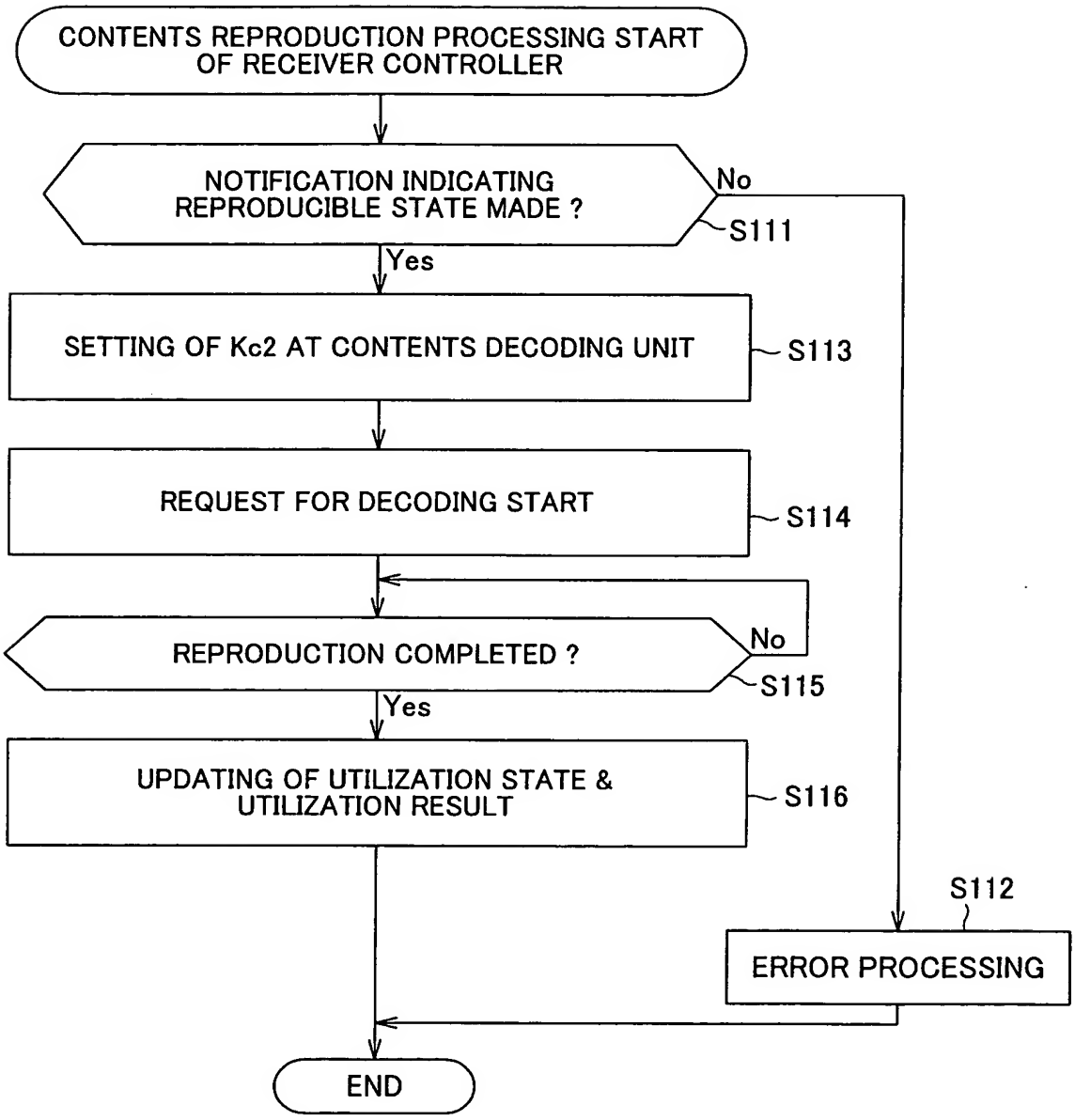

CONTENTS REPRODUCTION PROCESSING START OF RECEIVER CONTROLLER
NOTIFICATION INDICATING REPRODUCIBLE STATE MADE ?
No
S111
Yes
SETTING OF Kc2 AT CONTENTS DECODING UNIT
S113
REQUEST FOR DECODING START
S114
REPRODUCTION COMPLETED ?
No
S115
Yes
UPDATING OF UTILIZATION STATE & UTILIZATION RESULT
S116
S112
ERROR PROCESSING
END

FIG.13

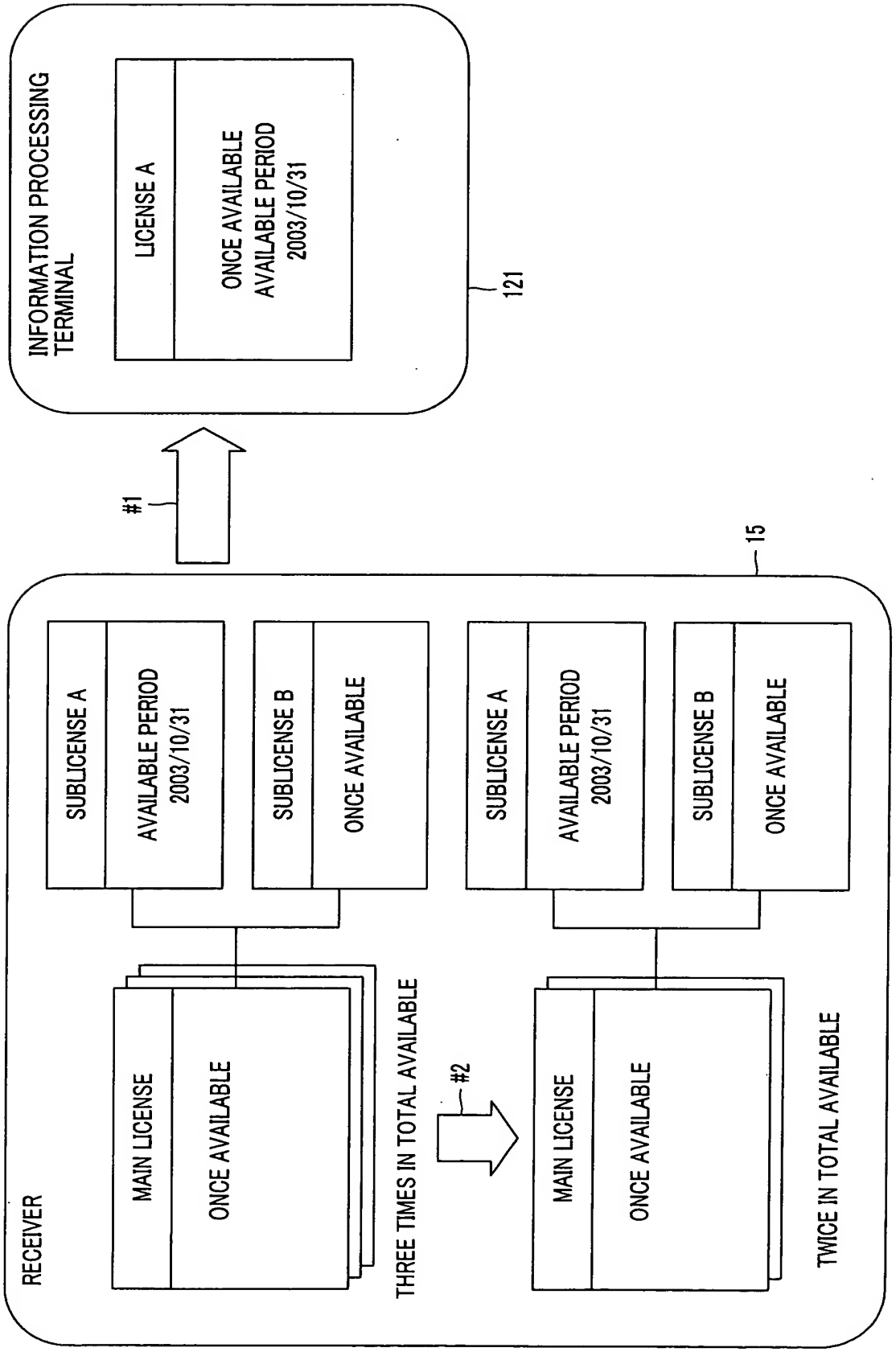

INFORMATION PROCESSING TERMINAL
LICENSE A
ONCE AVAILABLE
AVAILABLE PERIOD
2003/10/31
121
#1
15
RECEIVER
SUBLICENSE A
AVAILABLE PERIOD
2003/10/31
SUBLICENSE B
ONCE AVAILABLE
MAIN LICENSE
ONCE AVAILABLE
THREE TIMES IN TOTAL AVAILABLE
#2
SUBLICENSE A
AVAILABLE PERIOD
2003/10/31
SUBLICENSE B
ONCE AVAILABLE
MAIN LICENSE
ONCE AVAILABLE
TWICE IN TOTAL AVAILABLE

FIG.14

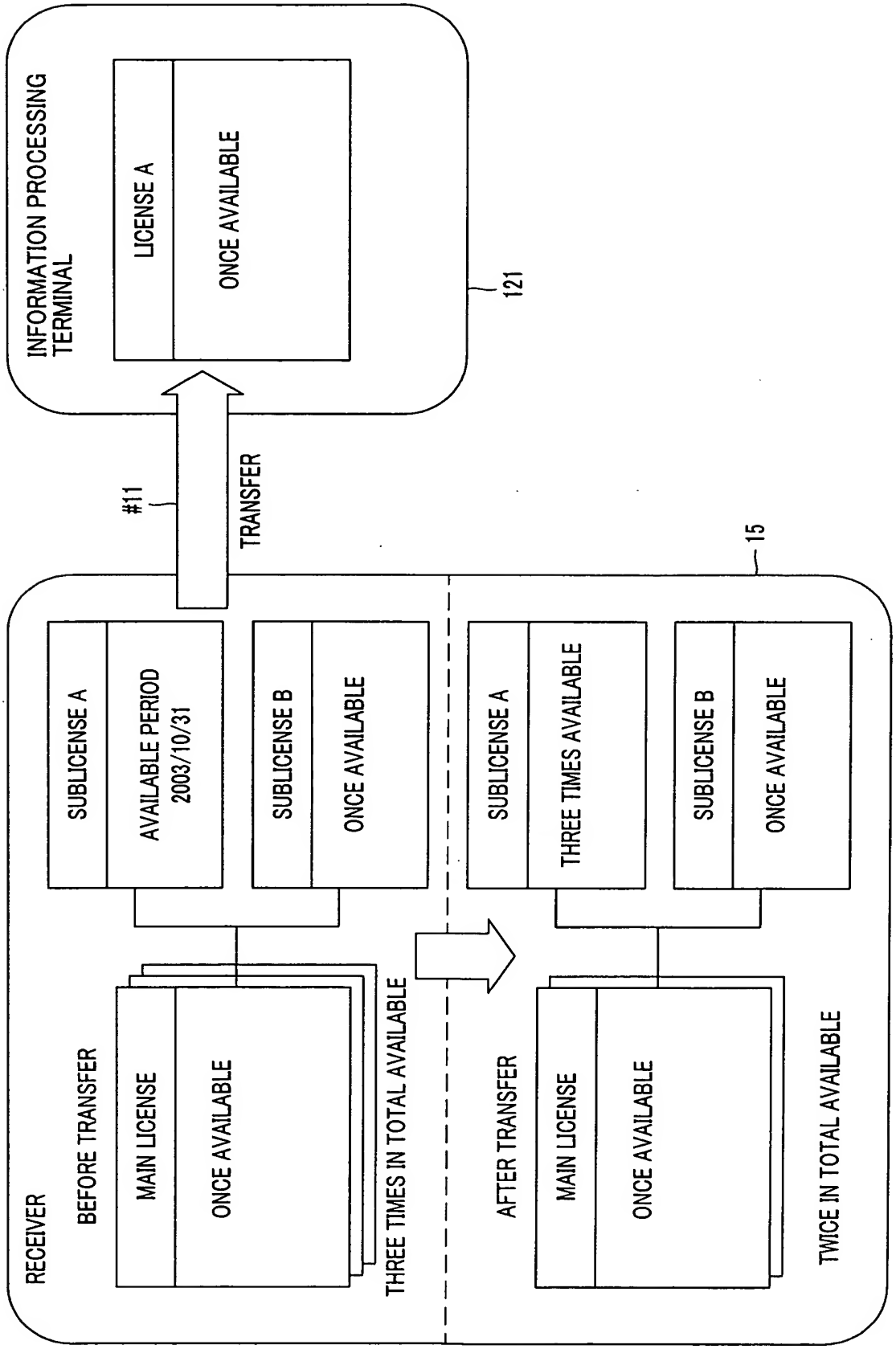

INFORMATION PROCESSING TERMINAL
LICENSE A
ONCE AVAILABLE
121
#11
TRANSFER
15
RECEIVER
BEFORE TRANSFER
SUBLICENSE A
AVAILABLE PERIOD 2003/10/31
SUBLICENSE B
ONCE AVAILABLE
MAIN LICENSE
ONCE AVAILABLE
THREE TIMES IN TOTAL AVAILABLE
AFTER TRANSFER
SUBLICENSE A
THREE TIMES AVAILABLE
SUBLICENSE B
ONCE AVAILABLE
MAIN LICENSE
ONCE AVAILABLE
TWICE IN TOTAL AVAILABLE

FIG.15

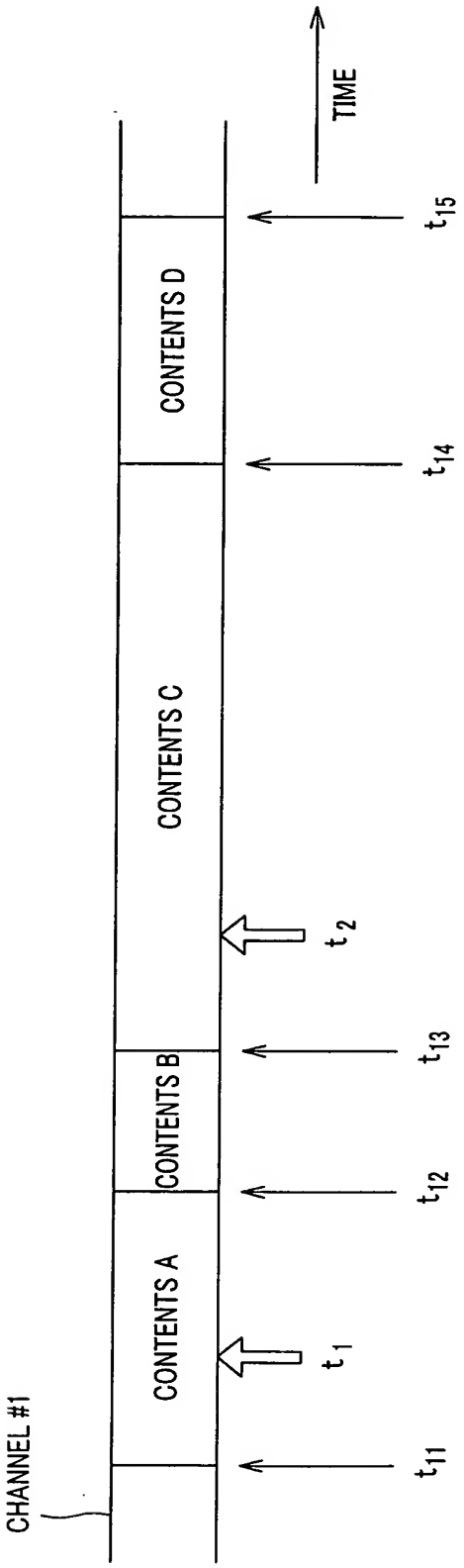

CHANNEL #1
CONTENTS A
CONTENTS B
CONTENTS C
CONTENTS D
TIME
t11
t12
t13
t14
t15
t1
t2

FIG.16

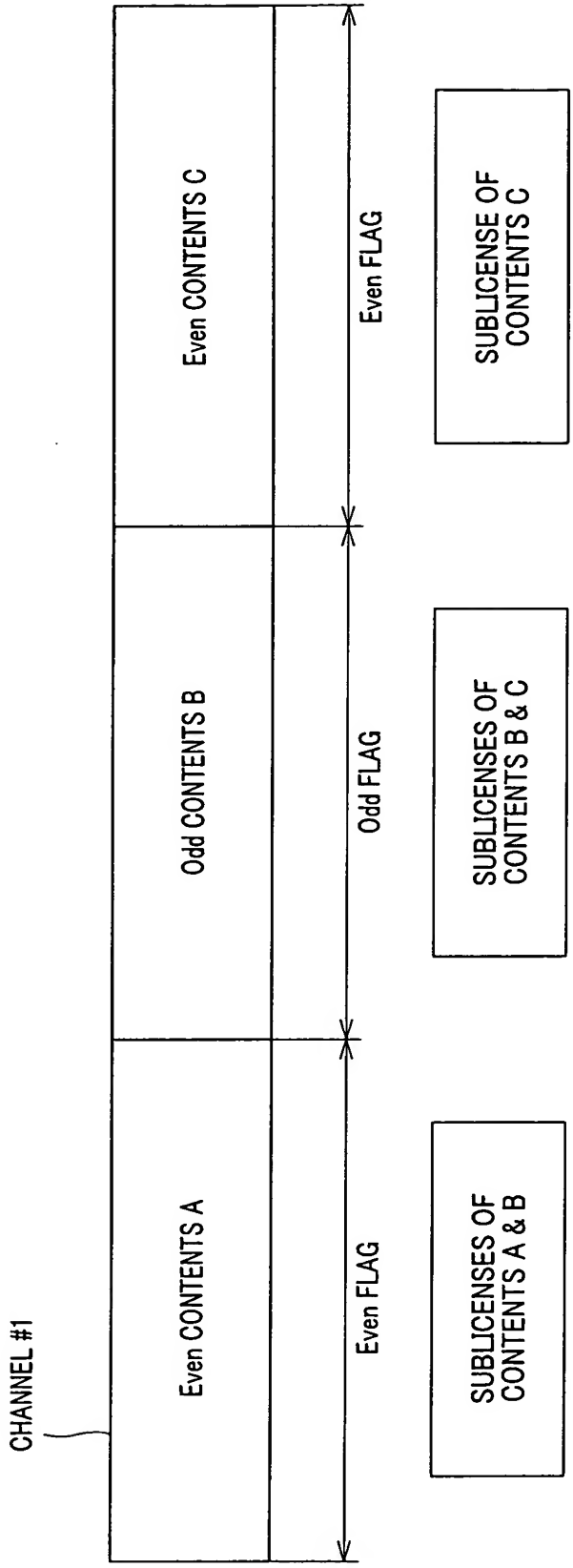

CHANNEL #1
Even CONTENTS A
Odd CONTENTS B
Even CONTENTS C
Even FLAG
Odd FLAG
Even FLAG
SUBLICENSES OF CONTENTS A & B
SUBLICENSES OF CONTENTS B & C
SUBLICENSE OF CONTENTS C

FIG.17

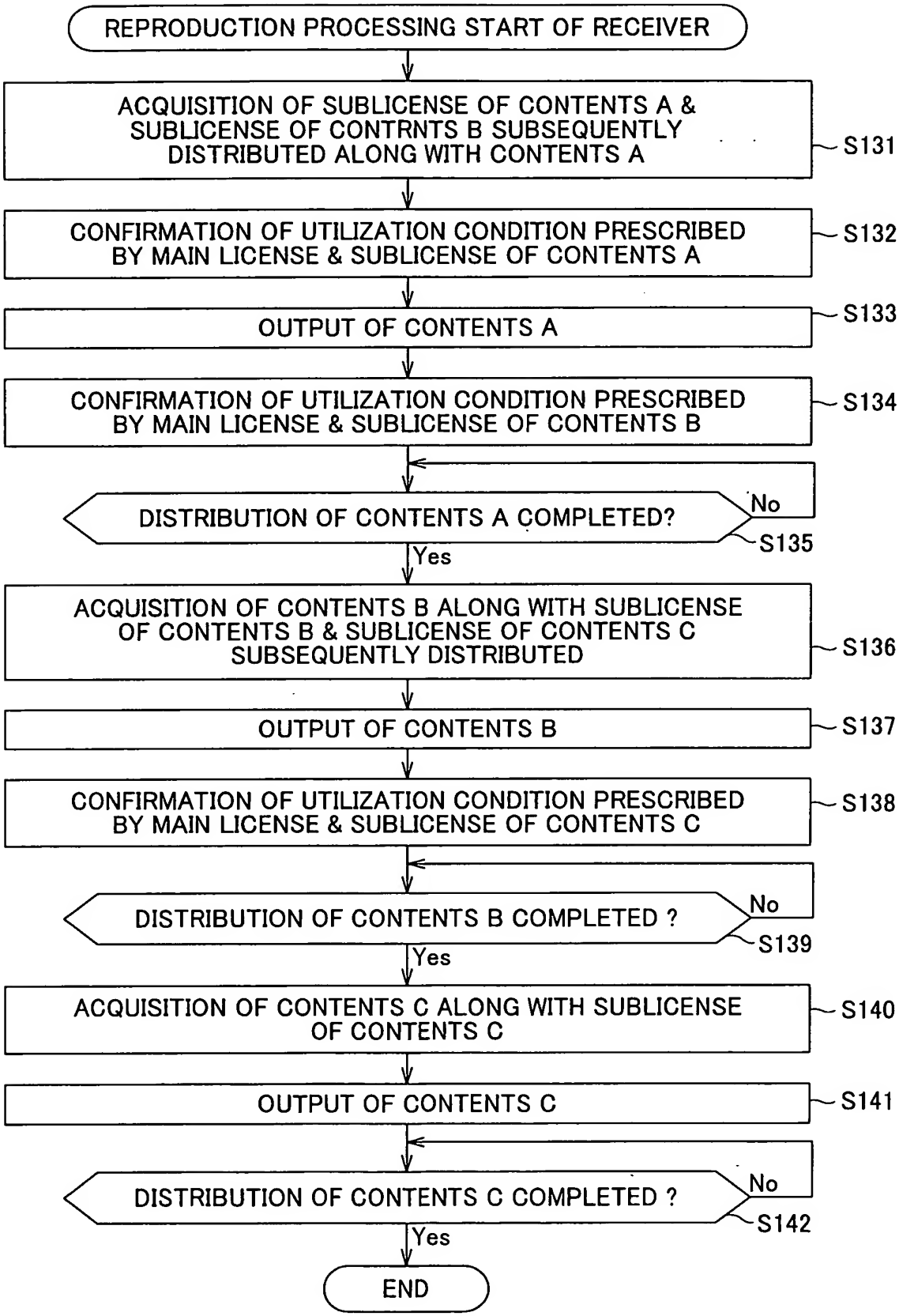

REPRODUCTION PROCESSING START OF RECEIVER
ACQUISITION OF SUBLICENSE OF CONTENTS A & SUBLICENSE OF CONTRNTS B SUBSEQUENTLY DISTRIBUTED ALONG WITH CONTENTS A
S131
CONFIRMATION OF UTILIZATION CONDITION PRESCRIBED BY MAIN LICENSE & SUBLICENSE OF CONTENTS A
S132
OUTPUT OF CONTENTS A
S133
CONFIRMATION OF UTILIZATION CONDITION PRESCRIBED BY MAIN LICENSE & SUBLICENSE OF CONTENTS B
S134
DISTRIBUTION OF CONTENTS A COMPLETED?
No
S135
Yes
ACQUISITION OF CONTENTS B ALONG WITH SUBLICENSE OF CONTENTS B & SUBLICENSE OF CONTENTS C SUBSEQUENTLY DISTRIBUTED
S136
OUTPUT OF CONTENTS B
S137
CONFIRMATION OF UTILIZATION CONDITION PRESCRIBED BY MAIN LICENSE & SUBLICENSE OF CONTENTS C
S138
DISTRIBUTION OF CONTENTS B COMPLETED ?
No
S139
Yes
ACQUISITION OF CONTENTS C ALONG WITH SUBLICENSE OF CONTENTS C
S140
OUTPUT OF CONTENTS C
S141
DISTRIBUTION OF CONTENTS C COMPLETED ?
No
S142
Yes
END

FIG.18

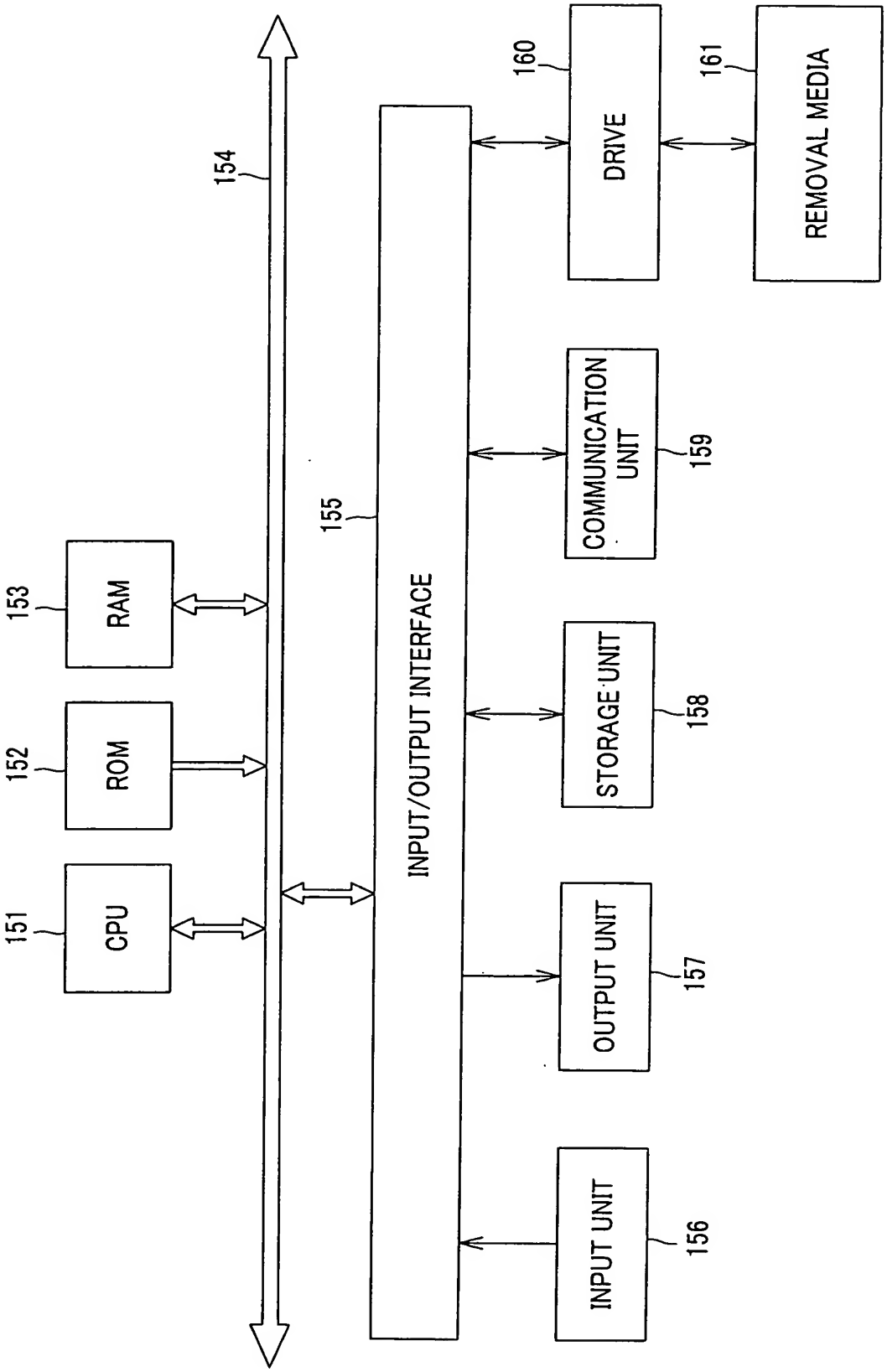

151
CPU
152
ROM
153
RAM
154
155
INPUT/OUTPUT INTERFACE
156
INPUT UNIT
157
OUTPUT UNIT
158
STORAGE UNIT
159
COMMUNICATION UNIT
160
DRIVE
161
REMOVAL MEDIA

FIG.19